

Serial No. 10/552,166

Amendment Dated: April 29, 2008

Reply to Office Action Mailed: October 29, 2007

Attorney Docket No. 095309.56877US

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1.-6. (Cancelled).

Claim 7. (Currently Amended) A method for operating a compression-ignition internal combustion engine having a cylinder, in which a combustion chamber is delimited between a piston and a cylinder head, an engine control device and a fuel feed device, ~~in which said method comprising:~~

[[.]] ~~during a working cycle, metering a quantity of fuel that is determined metered in as a function of [[the]] an operating point of said engine; during a working cycle,~~

~~wherein~~

[[.]] ~~injecting said [[the]] quantity of fuel which is metered in is injected into the combustion chamber during said working cycle; and~~

Adjusting engine parameters in such a manner that

[[[-]]] the [[a]] position of [[the]] a combustion center of gravity is maintained at a defined crank angle position, independently of the operating point of the internal combustion engine.

Claim 8. (Currently Amended) The method as claimed in claim 7, wherein said step adjusting engine parameters comprises:

determining a current position of the combustion center of gravity is determined as a function of a recorded pressure profile in the combustion chamber; ~~the pressure profile in the combustion chamber preferably being recorded by means of a sensor.~~

comparing said current position of the combustion center of gravity with said defined crank angle position; and

altering said engine parameters until the current position of the combustion center of gravity corresponds to said defined crank angle position.

Claim 9. (Previously Presented) The method as claimed in claim 8, wherein the current position of the combustion center of gravity is determined as a function of a crank angle position at which a maximum cylinder pressure is recorded in the combustion chamber.

Claim 10. (Currently Amended) The method as claimed in claim 7, wherein ~~the current position of the combustion center of gravity is determined as a function said engine parameters include at least one of a fuel injection duration, [[the]] a start of fuel injection, a charge mass in the combustion chamber and [[the]] a speed of the internal combustion engine.~~

Claim 11. (Previously Presented) The method as claimed in claim 10, wherein an exhaust gas recirculation quantity for setting a defined oxygen concentration in the combustion chamber is set as a function of the combustion center of gravity.

Claim 12. (Currently Amended) The method as claimed in claim 11, wherein the position of the combustion center of gravity is set by one of i) varying [[the]] a start of [[the]] compression ignition, and ii) or by varying the fuel injection.

Claim 13. (Previously Presented) The method as claimed in claim 7, wherein the current position of the combustion center of gravity is determined as a function of a crank angle position at which a maximum cylinder pressure is recorded in the combustion chamber.

Claim 14. (Previously Presented) The method as claimed in claim 7, wherein an exhaust gas recirculation quantity for setting a defined oxygen

concentration in the combustion chamber is set as a function of the combustion center of gravity.

Claim 15. (Currently Amended) The method as claimed in claim 7, wherein the position of the combustion center of gravity is set by one of i) varying [[the]] a start of [[the]] compression ignition, and ii) or by varying the fuel injection.

Claim 16. (Currently Amended)) A method for operating a compression-ignition internal combustion engine, said including a cylinder head, a piston, a combustion chamber defined by the piston and the cylinder head, an engine control device and a fuel feed device, the method comprising:

metering [[in]] a quantity of fuel as a function of an operating point during a working cycle; [[,]]

injecting [[the]] said quantity of fuel which is metered in into [[the]] a combustion chamber of said engine:

determining a current position of a combustion center gravity;

comparing said determined current position with a preset desired position of said combustion center of gravity; and

adjusting operating parameters of said engine in such a manner that a combustion center of gravity is positioned at a defined crank angle position, independently of the operating point of the Internal combustion engine.

Claim 17. (Currently Amended) The method as claimed in claim 16, ~~further comprising determining a~~ wherein the position of the combustion center of gravity is determined as a function of a pressure profile in the combustion chamber.

Claim 18. (Previously Presented) The method as claimed in claim 17, wherein the pressure profile in the combustion chamber is recorded with a sensor.

Claim 19. (Previously Presented) The method as claimed in claim 17, wherein the current position of the combustion center of gravity is determined as a function of a crank angle position at which a maximum cylinder pressure is recorded in the combustion chamber.

Claim 20. (Currently Amended) The method as claimed in claim 16, ~~further comprising determining a~~ wherein the position of the combustion center of gravity is determined as a function of at least one of a fuel injection duration, [[the]] a start of fuel injection, a charge mass in the combustion chamber, and [[the]] speed of the internal combustion engine.

Claim 21. (Previously Presented) The method as claimed in claim 20, further comprising setting an exhaust gas recirculation quantity for setting a defined oxygen concentration in the combustion chamber as a function of the combustion center of gravity.

Claim 22. (Previously Presented) The method as claimed in claim 21, further comprising setting the position of the combustion center of gravity by varying at least one of the start of compression ignition and the fuel injection.

Claim 23. (Previously Presented) The method as claimed in claim 16, wherein the current position of the combustion center of gravity is determined as a function of a crank angle position at which a maximum cylinder pressure is recorded in the combustion chamber.

Claim 24. (Previously Presented) The method as claimed in claim 16, further comprising setting an exhaust gas recirculation quantity for setting a defined oxygen concentration in the combustion chamber as a function of the combustion center of gravity.

Claim 25. (Previously Presented) The method as claimed in claim 16, further comprising setting the position of the combustion center of gravity by varying at least one of the start of compression ignition and the fuel injection.